Research on preservation of foodgrains and vegetables

*464. SHRI K.M KHAN: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that the Bhabha Atomic Research Centre (BARC) has carried out some research for preservation for foodgrains and vegetables;

(b) if so, what extent this technology is being used in the country;

(c) whether use of such technology for preservation of foodgrains and vegetables is safe and good for human life; and

(d) if so, what specific proof Government have and what are are the details thereof?

THE MINISTER OF STATE OF THE DEPARTMENT OF ATOMIC ENERGY (SHRIMATI VASUNDHARA RAJE): (a) to (d) A Statement is laid on the Table of the House.

Statement

(a) Yes, Sir. The Bhabha Atomic Research Centre (BARC) has carried out extensive research for preservation of meat & meat products, spices, foodgrains, viz, rice, wheat & wheat products, semolina (sooji, rawa) and vegetables viz. potatoes, onions, garlic, ginger, mushrooms etc.

(b) After considerable R&D in this field, a small Pilot Scale Package Irradiator which can treat up to 500 kg of onion and potato per hour is being operated at Food Technology Division, Bhaba Atomic Research Centre, Mumbai. A facility for technology demonstration purpose has been commissioned by the Department of Atomic Energy for irradition of spices at Vashi, Navi Mumbai. Another demonstration facility for irradiation of potatoes, onions and other food products with need low dose irradiation is being set up at Lasalgaon in Nasik District of Maharashtra.

(c) Yes, Sir.

(d) The Ministry of Health and Family Welfare, Govt. of India, New Delhi has amended suitably the Prevention of Food Adulteration Rules (1955) in 1994 and given clearance for radiation processing of food has also been accepted by the World Health Organisation, Food & Agriculture Organisation, International Atomic Energy Agency and Codex Alimentarious Commission which is responsible for setting up global food standards. A number of countreis are already using the radiation process for a variety of foods.

SHRI K.M. KHAN: Sir, this technology is a very important and useful

development in the preservation of food. I would like to ask the hon. Minister whether this technology can be made available throughout the country or it would be usedhonly in areas confined to atomic research centres. What are the difficulties faced by the Government in providing such vital facilities all over the country?

SHRIMATI VASUNDHARA RAJE: Sir, food security, as the hon. Member said, is a primaru importance for the self-reliance of any country. I do agree with it. This is one of the latest methods which has been developed for preserving food, with the least change in sensory quality. It involves exposure of food to short-wave energy, which allows you to extend its itshelf life, anything to do with insect disinfestation, anything which is carried like food borne pathogens and parasaites, as also anything like microbial decontamination of spices. It is eco-friendly. It consumes less energy. It has an operational simplicity, and it is the latest technology.

Now, there are certain safety features that are to be followed. under this, the irradiation plants requires to be authorised by the Atomic Energy Regulatory Board. After this, the licence has to be obtained from the authority concerned — in this case, it is the Atomic energy Department — and it is to be issued only after ascertaining all the safety aspects of the installation and its suitability to ensure proper process controls, availability of licensed operations and qualified staff. In some progressive States, the Food and Drug Administration also does this job. This is available, at the moment, in three Statas — Goa, Maharashtra and Andhra Pradesh. We have a small pilot project, which is food package irradiator, at the Food Technology Division of BARC, in Mumbai, which can treat about five hundred kg. of onion and potato.

There is one more which is under construction at Laselgaon as Nasik in Maharashtra. As far at this is cboncerned, we would be happy that these come up in other parts of the country provided the safety standards are taken care of, met and stringent quality is maintained.

SHRI K.M. KHAN: Sir, my second supplementary is that this issue relates to the safety aspects. I would like to know whether the foodgrains and vegetables undergone through the atomic rays are indeed safe for human consumption and no side effects are there by using such preserved foodstuffs.

SHRIMATI VASUNDHARA RAJE: Sir, the process itself involves passing the food through a radiation field which allows food sto absorb the desired radiatron energy and the studies that have been done show that this has very little effect on the nutrients itself. Sir, extensive studies on food irradiation

have been conducted worldwide and experts of the WHO, FAO, international atomic energy agencies and we have jointly reviewed all the data that has been obtained worldwide, including from India, in the last four decades. They have declared that irradiated food is safe for human consumption. The American Council for Science and Health, the American Medical Association, the National Institution of State Department of Agriculture, the Council of Agricultural Science and Technology and the American Dietetic Association have all endorsed the safety of the irradiated food. Today 38 other countries, apart from us, have approved the use of radiation in certain food items.

DR. BIPLAB DASGUPTA: Sir, I fell that on this issue, I would say that we will be entering an unknown territory. We have been given a complete and impressive list of organisations and insitutions which have certified that this food is safe. But the point is that this is only one side of the picture. It is quite possible that the scientists from Britain may take a different position. I will give you a concrete example of genetically modify food. Now, America is trying to push genetically modified food all over the world. In Britain there is a lot of resistance to it. In fact, they are saying it is a right of the consumer to know whether it is genetically modified food or not and every shop has to advertise in this regard. Similarly, about the food which is subjected to radiation, we are yet to know its impacts. As you know, about nuclear energy it was said at one stage that it did not affect environmentally, and all that. But later it was found that it pollutes the atmosphere in different ways. What I am asking is this. Is the hon. Minister satisifed with whatever has been told to her by the American establishment or has she been able to consult much more wider groups of scientists and technicians to know that this type of food is not contaminted by this process?

SHRIMATI VASUNDHARA RAJE: Sir, I am sure that the hon. Member's apprehension is something that probably is shared by a lot of people because this is a very new technology. As this is a new technology, at the moment, we are in the process of sensitising a lot of people about it. But, I can say that we will do our best and we will have a certain amount of interaction with all concerned. What I have just now told you on the floor of the House means that there is a lot of interaction going on. As far as the Atomic Regulatory Board is concerned, it takes extreme and stringent steps to see that we keep it within the safety standards. We will do our best remain within those safety standards.

DR. MANMOHAN SINGH: Mr. Chairman, Sir, in our country we have an Atomic Regulatory Authority. I would like to know from the hon. Minister

whether this matter of low irradiation has ever been referred to this Atomic Regulatory Authority and whether they have certified with regard to its safety. The second question is that if the Minister is so sure that this is perfectly a safe technology, then why are we limitinjg its use only to a small pilot scale project?

SHRIMATI VASUNDHARA RAJE: Sir, first, I will reply to the second part of the question. We have, very recently, after the testing which was conducted at the BARC, started two centres—one at Nasik and the other one at Navi Mumbai. These facilities are still coming up. They are expensive facilities. They have to go through some very stringent testing and that has taken a certain amount of time. Also, the food and drug authority itself, in the States, is at various stages of progress. The three States that are very progressive are: Andhra Pradesh, Maharashtra and Goa. The other States, as far as this issue is concerned, are still formulating the laws and rules. A certain amount of time has taken place. As I said, this would be dealt with.

With regard to the second part of the supplementary. I would submit that it has been referred to the AERB. The AERB has laid down a very stringent set of guidelines, and those guideliens are to be followed before the licence is issued by the Department of Atomic Energy.

श्री संजय निरुपम: सभापति महोदय, माननीय मंत्री महोदया ने बताया कि खाद्यान्न और सब्जियों को प्रिजर्व करने के लिए बी.आर.सी. की तरफ से नई टेक्नॉलाजी ईजाद की गई है उसके लिए डिमांस्ट्रेशन फेसिलिटी नवी मुम्बई में शुरू हो चुकी है और लासल गांव में आने वाली है।मैं जानना चाहता हूं कि इससे आम किसान और व्यापारियों को जो सुविधा हम देने जा रहे हैं वह सुविधा कितनी महंगी होगी? आम किसान कितना एफॉर्ड कर सकता है इस रेडिएशन सिस्टम को और आर्थिक दृष्टिकोण से कितना फायदेमंद हो सकता है, यह मैं जानना चाहता हूं?

SHRIMATI VASUNDHRA RAJE: Now, it is at the first stage. We have, as I said, gone in for these two centres. They are in Nasik and Mumbai. As far as the prices are concerned, I am sure, they will be slightly higher than what we have expected. But, at the end of the day, you will be able to preserve large amounts of foodgrains which are, at the moment, wasted because of spoilage, because of heat and because of rodents. You have massive amounts of food otherwise going as wastage because of the fact that we are able to preserve them properly This is a facility which, I think, most people will find useful because, at the end of the day, you will be able to gain much more. Of course, a certain amount of increase in price is there.

श्री टी.एन. चतुर्वेदी: धन्यवाद सभापति महोदय। मैं केवल जो सब्जियां हैं जिसमें कि आलू,

प्याज, लहुसन, जिंजर, अदरक इत्यादि का जिक्र किया गया है उसी के संबंध में मैं मंत्री महोदया से कुछ जानना चाहता हूं। मैं आत हूं कि यहां परत परीक्षण किया गया है वही सही है और उसमें जितने भी प्रिकॉशंस और सावधानियां बरतनी चाहिए वह ले ली गई है। चूंकि मैं उत्तर प्रदेश से आता हूं और उस क्षेत्र में हर साल आलू का बहुत उत्पादन होता है तथा वहां पर सड़कों पर पड़ा रहता है और व्यर्थ जाता है तथा इससे किसानों को बहुत नुकसान होता है। मिजोरम के बहुत से नवयुवक मेरे पास बहुत दफे आए कि वहां इतनी अदरक होती है। एक दफे मैंने प्रधान मंत्री जी से भी निवेदन किया था। क्या यह सम्भव है कि उसको यहां दिल्ली लाया जा सके और उसका उचित मूल्य पर वितरण कर सकते हैं? मगर इसमें कुछ सम्भव नहीं हुआ। ऑनियन के कारण को तो आप जानते हैं कि उन्होंने दिल्ली एडमिनिस्ट्रेशन में अपनी एक सरकार ही बना ली। इसी वजह से मैं यह जानना चाहता हूं कि कितने महीनों तक इसका प्रिजर्वेशन संरक्षण यह जो आपने नई टेक्नालॉजी या प्रणाली निकाली है उससे संभव है और फिर ऐसे पिछड़े प्रदेशों में आप अपने डिमांस्ट्रेशन यूनिट कब तक कायम करनापीडअं हैं? अगर आप वहां पर चाहते हैं इन क्षेत्रों में सभी नया कानून बने तो क्या उसके विषय में भी आप कुछ जानकारी उन राज्यों को देना चाहेंगी?

SHRIMATI VASUNDHRA RAJE: As far as the States are concerned, the food and drug authorities, in various States, ahve to lay down a certain code. They are doing that. I think, after having taken a que from Maharashtra, they are doing it. It is a very comprehensive and effective code and that is something to be followed by all. Until that is laid down by the States, it is not possible for us to deal with them.

टी.एन. चतुर्वेदी: क्या आप बता सकेंगी कि किन राज्यों में कितना हो गया है? क्योंकि जो इनीसिएटिव या पहल भारत सरकार ने की है, बार्क ने की है, मैं समझता हूं कि इसके बारे में केन्द्र सरकार का उत्तरदायित्व है कि वह राज्य सरकारों से सम्पर्क स्थापित करके, जानकारी देकर के उनको उत्साहित करे, मगर इस दिशा में अभी तक कार्य नहीं हुआ है। इसलिए मेरा निवेदन है कि इस पक्ष के ऊपर शीघ्र ही विचार किया जाए।

SHRIMATI VASUNDHARA RAJE: At the moment, there are thre States in which these food and drug authorities are working. ...(*Interruptions*)...Let me finish. As far as we are concerned, we would like to interact with as many States as possible. The U.P. State Agro Industries Corporation has already contacted us in regard to preservation of potatos. As far as your query on "how long it will last', is concerned, I would like to say that preservation would be up to, approximately, six months and at 10 degress.

श्रीमती सरोज दुबे: सभापति महोदय, अभी तक कुछ सीमित खाद्यान्नों पर परिरक्षण किया जा रहा है। मैं मंत्री महोदया से यह जानना चाहती हूं कि जो भाभा परमाणु अनुसंधान केन्द्र है इसमें क्या

खाद्यान्न किरणन सुविधाओं के प्रचालन के लिए प्रशिक्षण के पाठ्यक्रमों की कोई व्यवस्था की गई है जिससे कि अधिक से अधिक लोगों को जानकारी मिल सके?

मेरा दूसरा सवाल यह है कि स्वास्थ्य एवं परिवार कल्याण मंत्रालय के पास केन्द्र द्वारा अतिरिक्त खाद्यान पदार्थों के किरणन हेतु क्या और अधिक अनुमति प्राप्त करने के लिए आपके पास आवेदन पत्र आये हैं? अगर आये हैं तो वे कौन से खाद्यान्न हैं जिनके किरणन के लिए आपसे अनुमति मांगी गई है?

SHRIMATI VASUNDHARA RAJE: As far as second part of hon. Member's question is concerned, I will make an inquiry into it and come back to the hon. Member. I am sorry that I do not have the requisite information right now. As far as training and sensitisation about this process is concerned, the Government of India is making every effort to reach out, as much as possible, to the various States through training programmes to be able to sensitise them to this. We have also given training to yprivate enterpreneurs, industries, farmers and operators.

श्रीमती सरोज दुबे: महोदय, बिहार में केला, लीची और अमरुद की बहुत फसल होती है। क्या आपने बिहार को भी इस पाठयक्रम की ट्रेनिंग देने के लिए चुना है?

श्रीमती वसुन्धरा राजे: सर, अभी तक जो हमारे पास इायरीज आई हैं वह उत्तर प्रदेश और हिमाचल प्रदेश से आई हैं। बिहार से कोई इायरी नहीं आई है।

SHRIMATI JAYAPRADA NAHATA: Sir, through you, I would like to know from the hon. Minister : It is true that during the last five years, funds have been the main constraint in developing the technology for preservation of foodgrains and vegetables. I would also like to know as to how the technology has been developed in this area; how it is being applied at the grassroot level, and whether any research is going on in Andhra Pradesh in this regard. If so; I would like to know the details thereof?

SHRIMATI VASUNDHARA RAJE: Sir, there is no fund-constraints. As far as your question regarding Andhra Pradesh is concerned, it has not made an enquiry as yet. Therefore, there is only one research and training facility where this demonstration is available, it is at BARC in Mumbai.

*465. [*The questioner (Shri M.J. Varkey Mattathil) was absent. For answer, vide page 25 infra.*]